Can adding right heart chamber measurements to severity of pulmonary hypertension predict mortality in patients undergoing aortic valve replacement?

STUDY DESIGN

- Single center observational cohort study of 429 patients with **severe aortic stenosis** undergoing aortic valve replacement (2005-2017)

- Pulmonary hypertension (PH) classified by Tricuspid regurgitation velocity (TRV) and echocardiography

- Patients divided into "low", "intermediate" and "high" PH probability groups per ESC/ERS guidelines

RESULTS

- Overall mortality rates per group (probability):
  LOW **24%** | INTERMEDIATE **32%** | HIGH **42%**

- TRV>3.4 m/s **independent predictor** of all-cause mortality (HR 1.82; 95% CI:1.11–3.00)

- On multivariate analysis
  - Intermediate subgroup 2a (No TR or TRV ≤2.8 m/s + present echo signs) – HR 2.13 (CI 1.11–4.10, p=0.02)
  - Intermediate subgroup 2b (TRV 2.9–3.4 + normal echo signs) – HR 1.23 (CI 0.74–2.04, p 0=40)

Incorporating right heart measurements to PH probability model provides better risk discrimination of long term prognosis after aortic valve replacement.

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